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       Fridman, Eyal

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AND USE OF SAME

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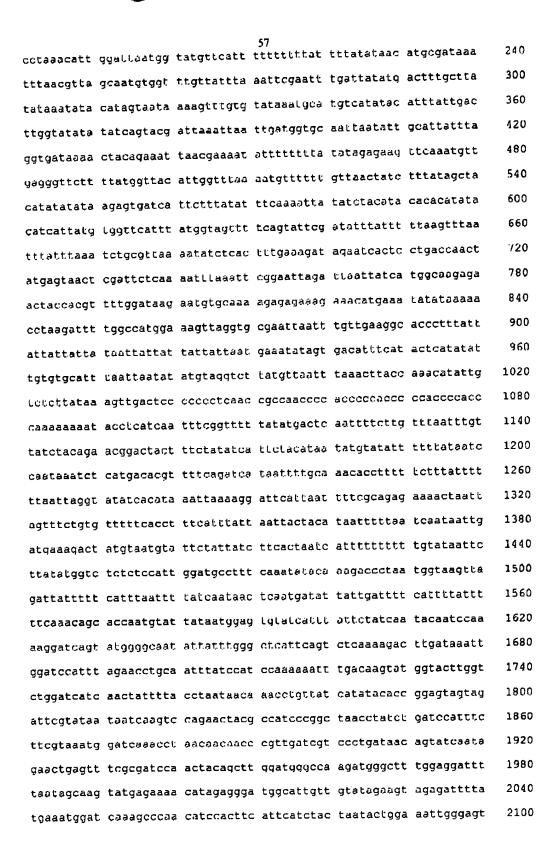
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gcaaagctaa gatacaatat tgaagaaaaa aaaaagaata aggagaaagg aactatggta   13260

aaaggggggaa atatgagatt ttgatggaca tataagagtt tgttattttg atatttcaac   13320

tctatttttt ttgtttatca aattagatat ccctcgagtc aaaaaaaatg tatatagatt   13380

tatcctctat tttcaattta tgacaataat gctatgtttt tgctttcaaa a             13431
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<210>   2
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<212>   DNA
<213>   Artificial sequence

<220>
<223>   Single strand DNA oligonucleotide

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<210>   3
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<212>   DNA
<213>   Artificial sequence

<220>
<223>   Single strand DNA oligonucleotide

<400>   3
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<210>   4
<211>   3616
<212>   DNA
<213>   Lycopersicon pennellii

<400>   4
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tttataattt tatcaaacat taatagggca tttgcttctc ataatatttt tttggacttg   120

caatcttcaa gtgctattag tgtcaagaat gttcatagaa ctcgtttttca tttttcaacct  180
```

57

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cctaaacatt ggattaatgg tatgttcatt ttttttttat tttatataac atgcgataaa   240

tttaacgtta gcaatgtggt ttgttattta aattcgaatt tgattatatg actttgctta   300

tataaatata catagtaata aaagtttgtg tataaatgca tgtcatatac atttattgac   360

ttggtatata tatcagtacg attaaattaa ttgatggtgc aattaatatt gcattattta   420

ggtgataaaa ctacagaaat taacgaaaat attttttttta tatagagaag ttcaaatgtt   480

gagggttctt ttatggttac attggtttaa aatgttttttt gttaactatc tttatagcta   540

catatatata agagtgatca ttctttatat ttcaaaatta tatctacata cacacatata   600

catcattatg tggttcattt atggtagttt tcagtattcg atatttattt ttaagtttaa   660

tttattttaaa tctgcgttaa aatatctcac tttgaaagat agaatcactc ctgaccaact   720

atgagtaact cgattctcaa aattttaaatt cggaattaga ttaattatca tggcaagaga   780

actaccacgt tttggataag aatgtgcaaa agagagaaag aaacatgaaa tatataaaaa   840

cctaagattt tggccatgga aagttaggtg cgaattaatt tgttgaaggc acccttattt   900

attattatta taattattat tattattaat gaaatatagt gacattttcat actcatatat   960

tgtgtgcatt taattaatat atgtaggtct tatgttaatt taaacttacc aaacatattg   1020

tctcttataa agttgactcc cccccctcaac cgccaacccc accccacccc ccacccccacc   1080

caaaaaaaat acctcatcaa tttcggtttt tatatgactc aatttttcttg tttaatttgt   1140

tatctacaga acggactact ttctatatca ttctacataa tatgtatatt ttttataatc   1200

caataaatct catgacacgt tttcagatca taattttgca aacaccttttt tctttatttt   1260

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aaggatcagt atggggcaat attatttggg ctcattcagt ctcaaaagac ttgataaatt   1680

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ctggatcatc aactattta cctaataaca aacctgttat catatacacc ggagtagtag   1800

attcgtataa taatcaagtc cagaactacg ccatcccggc taacctatct gatccattttc   1860

ttcgtaaatg gatcaaacct aacaacaacc cgttgatcgt ccctgataac agtatcaata   1920

gaactgagtt tcgcgatcca actacagctt ggatgggcca agatgggctt tggaggattt   1980

taatagcaag tatgagaaaa catagaggga tggcattgtt gtatagaagt agagatttta   2040

tgaaatggat caaagcccaa catccacttc attcatctac taatactgga aattgggagt   2100
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58

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gtcctgattt ttttccctgta ttatttaata gtaccaatgg tttagatgta tcgtatcgcg   2160

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ctattggcat gtatcacacc aaaatagata ggtatattcc gaataacaat tcaattgatg   2280

gttggaaggg attgagaatc gactatggta atttctatgc atcgaagaca ttctatgatc   2340

ctagcagaaa tcgaagggtt atttggggtt ggtcaaatga atccgatgta ttacctgacg   2400

atgaaattaa gaaaggatgg gctggaattc aaggtattcc gcgacaagta tggctaaacc   2460

ttagtggtaa acaattactt caatggccta ttgaagaatt agaaaccota aggaagcaaa   2520

aggtccaatt gaacaacaag aagttgagca agggagaaat gtttgaagtt aaagggatct   2580

cagcatcaca ggtttcaact tttccttatt aaactatagt cttttaaata tcattaatct   2640

acttcttata tgtataatca atgtataact attatatcaa atgcacatga tcgattgatt   2700

atacatttgc tatatatata tctctattat atcaattgca ctgtctcatc ttgcatttct   2760

ttgatcgtag gctgatgttg aagtgctgtt ctcattttca agtttgaacg aggccgaaca   2820

atttgatcct agatgggctg acctatatgc ccaagacgtt tgtgccatta agggttcgac   2880

tatccaaggt gggcttggac catttgggct tgtgacatta gcttctaaaa acttagaaga   2940

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ctcagatgct agaaggtttg tttcttcaat ccaattaatt gtaatgatcg aagttcacat   3060

cttctccaaa ttgagtaaat cgagaattat aatgacccga ctttgatatc atgataagaa   3120

atgcatttac ttatagatcg cccgttagtg tcattaaaaa actctaacct tgtttaggtt   3180

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atgcataaca tcaagggtgt atccaacttt agcgatttat gataatgcac atttatttgt   3540

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<210> 5
<211> 584
<212> PRT
<213> Lycopersicon pennellii

<400> 5

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1               5                   10                  15
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59

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Leu Phe Cys Leu Phe Ile Ile Leu Ser Asn Ile Asn Arg Ala Phe Ala
         20                25              30

Ser His Asn Ile Phe Leu Asp Leu Gln Ser Ser Ser Ala Ile Ser Val
         35            40            45

Lys Asn Val His Arg Thr Arg Phe His Phe Gln Pro Pro Lys His Trp
         50          55              60

Ile Asn Asp Pro Asn Ala Pro Met Tyr Tyr Asn Gly Val Tyr His Leu
65              70              75              80

Phe Tyr Gln Tyr Asn Pro Lys Gly Ser Val Trp Gly Asn Ile Ile Trp
             85              90                  95

Ala His Ser Val Ser Lys Asp Leu Ile Asn Trp Ile His Leu Glu Pro
         100           105             110

Ala Ile Tyr Pro Ser Lys Lys Phe Asp Lys Tyr Gly Thr Trp Ser Gly
         115           120             125

Ser Ser Thr Ile Leu Pro Asn Asn Lys Pro Val Ile Ile Tyr Thr Gly
         130           135             140

Val Val Asp Ser Tyr Asn Asn Gln Val Gln Asn Tyr Ala Ile Pro Ala
145             150             155             160

Asn Leu Ser Asp Pro Phe Leu Arg Lys Trp Ile Lys Pro Asn Asn Asn
             165             170             175

Pro Leu Ile Val Pro Asp Asn Ser Ile Asn Arg Thr Glu Phe Arg Asp
             180             185             190

Pro Thr Thr Ala Trp Met Gly Gln Asp Gly Leu Trp Arg Ile Leu Ile
         195           200           205

Ala Ser Met Arg Lys His Arg Gly Met Ala Leu Leu Tyr Arg Ser Arg
         210           215             220

Asp Phe Met Lys Trp Ile Lys Ala Gln His Pro Leu His Ser Ser Thr
225             230             235             240

Asn Thr Gly Asn Trp Glu Cys Pro Asp Phe Phe Pro Val Leu Phe Asn
             245             250             255

Ser Thr Asn Gly Leu Asp Val Ser Tyr Arg Gly Lys Asn Val Lys Tyr
             260             265             270
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60

Val Leu Lys Asn Ser Leu Asp Val Ala Arg Phe Asp Tyr Tyr Thr Ile
275   280   285

Gly Met Tyr His Thr Lys Ile Asp Arg Tyr Ile Pro Asn Asn Asn Ser
290   295   300

Ile Asp Gly Trp Lys Gly Leu Arg Ile Asp Tyr Gly Asn Phe Tyr Ala
305   310   315   320

Ser Lys Thr Phe Tyr Asp Pro Ser Arg Asn Arg Arg Val Ile Trp Gly
                325   330   335

Trp Ser Asn Glu Ser Asp Val Leu Pro Asp Asp Glu Ile Lys Lys Gly
                340   345   350

Trp Ala Gly Ile Gln Gly Ile Pro Arg Gln Val Trp Leu Asn Leu Ser
                355   360   365

Gly Lys Gln Leu Leu Gln Trp Pro Ile Glu Glu Leu Glu Thr Leu Arg
                370   375   380

Lys Gln Lys Val Gln Leu Asn Asn Lys Lys Leu Ser Lys Gly Glu Met
385   390   395   400

Phe Glu Val Lys Gly Ile Ser Ala Ser Gln Ala Asp Val Glu Val Leu
                405   410   415

Phe Ser Phe Ser Ser Leu Asn Glu Ala Glu Gln Phe Asp Pro Arg Trp
                420   425   430

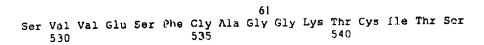Ala Asp Leu Tyr Ala Gln Asp Val Cys Ala Ile Lys Gly Ser Thr Ile
                435   440   445

Gln Gly Gly Leu Gly Pro Phe Gly Leu Val Thr Leu Ala Ser Lys Asn
                450   455   460

Leu Glu Glu Tyr Thr Pro Val Phe Phe Arg Val Phe Lys Ala Gln Lys
465   470   475   480

Ser Tyr Lys Ile Leu Met Cys Ser Asp Ala Arg Arg Ser Ser Met Arg
                485   490   495

Gln Asn Glu Ala Met Tyr Lys Pro Ser Phe Ala Gly Tyr Val Asp Val
                500   505   510

Asp Leu Glu Asp Met Lys Lys Leu Ser Leu Arg Ser Leu Ile Asp Asn
                515   520   525

61

Ser Val Val Glu Ser Phe Gly Ala Gly Gly Lys Thr Cys Ile Thr Ser
    530   535   540

Arg Val Tyr Pro Thr Leu Ala Ile Tyr Asp Asn Ala His Leu Phe Val
545   550   555   560

Phe Asn Asn Gly Ser Glu Thr Ile Thr Ile Glu Thr Leu Asn Ala Trp
                 565   570   575

Ser Met Asp Ala Cys Lys Met Asn
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<210> 6
<211> 1960
<212> DNA
<213> Lycopersicon esculentum

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caatcttcaa gtgctattag tgtcaagaat gttcatagaa ctcgttttca ttttcaacct   180
cctaaacatt ggattaatga ccctaatgca ccaatgtatt ataatggagt gtatcattta   240
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tcaaaagact tgataaattg gatccattta gaacctgcaa tttatccatc caaaaaattt   360
gacaagtatg gtacttggtc tggatcatca actattttac ctaataacaa acctgttatc   420
atatacaccg gagtagtaga ttcgtataat aatcaagtcc agaactacgc catcccggct   480
aacctatctg atccatttct tcgtaaatgg atcaaaccta caacaaccc gttgatcgtc   540
cctgataaca gtatcaatag aactgagttt cgcgatccaa ctacagcttg gatgggccaa   600
gatgggcttt ggaggatttt aatagcaagt atgagaaaac atagagggat ggcattgttg   660
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aataacaatt caattgatgg ttggaaggga ttgagaatcg actatggtaa tttctatgca   960
tcgaagacat tctatgatcc tagcagaaat cgaagggtta tttggggttg gtcaaatgaa   1020
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cgacaagtat ggctaaacct tagtggtaaa caattacttc aatggcctat tgaagaatta   1140
gaaaccctaa ggaagcaaaa ggtccaattg aacaacaaga agttgagcaa gggagaaatg   1200
tttgaagtta aagggatctc agcatcacag gctgatgttg aagtgctgtt ctcattttca   1260

62

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agtttgaacg aggccgaaca atttgatcct agatgggctg acctatatgc ccaagacgtt    1320

tgtgccatta agggttcgac tatccaaggt gggcttggac catttgggct tgtgacatta    1380

gcttctaaaa acttagaaga atacacaucl gtttctttcc gagtgttcaa ggctcaaaaa    1440

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tgcataacat caagggtgta tccaacttta gcgatttatg ataatgcaca ttatttgtt    1680

tttaacaatg gctctgagac aatcacaatt gagactctga atgcttggag catggatgca    1740

tgtaagatga actaaatatt ttcaaaaaaa ttggaattat gtctacaatt atatatgtct    1800

aaagagacaa aaattgtgtt aaatttaaca gtagatgatg ttcacaaaaa tcctctataa    1860

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accatatata tatatattaa gtaagaaatt tgttagcttt    1960
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<210> 7
<211> 5
<212> PRT
<213> Artificial sequence

<220>
<223> Beta-fructosidase motif

<400> 7

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1   5

<210> 8
<211> 6
<212> PRT
<213> Artificial sequence

<220>
<223> Invertase catalytic motif

<400> 8

Trp Glu Cys Pro Asp Phe
1   5

<210> 9
<211> 500
<212> DNA
<213> Artificial sequence

<220>
<223> Sp9 marker probe

<400> 9
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63

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tgcqagtata ttattttatta atgtttlala ctaatataga agtcgttatt tttagggaaa   240

aaaagttctt ttcaaaatat gaaataaatt tctagcctag ggacgaaagt cttttttttt   300

tttataacta tagtaaacgt aaaatcacgt aattaaaaca ttlataataa taaaagataa    360

aagatctata ttggttttac caattagtac atattaggtt ttagtcacgt taatatgttt   420

acttttttgt lctaatatta gtaattatct attaatclltg taatagctaa ttttttttatt   480

tttttttttgt aattgattaa                                               500
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